

Chapter 6

Covered Plant Species



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6 COVERED PLANT SPECIES

6.1 Introduction

Chapter 6 includes species accounts for each plant covered by our HCP/NCCP, including conservation status, distribution, description and life history, habitat requirements, threats, population trend, and sensitivity to timber management. An explanation of the California Rare Plant Rank (CRPR) under the “conservation status” sub-headings for each covered plant is in Appendix R, *Plant Rankings*, along with clarification of the relationship between the CRPR and the California Native Plant Society (CNPS) lists. For those covered rare plant species found in the plan area, MRC will develop more detailed information through the monitoring program outlined in section 13.10, *Monitoring Rare Plants*. Finally, section 1.9.1, *Choosing Species for Plan Coverage*, gives the rationale for including in our HCP/NCCP the plants described in subsequent sections.

In consultation with CDFG and USFWS, MRC developed our covered plant list to include any rare plants subject to possible impact by the proposed covered activities. Three main sources of information were used, namely, the state and federal lists of rare and endangered plants and the CNPS inventory.

Our primary sources for plant information only provided general guidance. Clearly, data derived from a few plant occurrences is imprecise. The elevational range for a taxon with few occurrences, for example, may not reflect its true elevation limits. Consequently, MRC will not restrict our surveys or management to only those parameters given here for each taxon.

6.1.1 Plant designations

Sandwiched between the Pacific Ocean to its west and mountains and deserts to its east, with both the highest and the lowest elevations in the continental United States, California has a rich and diverse native flora. A native plant is one that grew in California prior to European contact. Having evolved with animals, fungi, and micro-organisms in a complex ecosystem, these plants are at the center of natural community conservation. Non-native plants have been purposely or accidentally introduced to California as a result of human actions. While many non-native plants do no harm, some are aggressive invaders of wildlands, capable of eliminating native plants.

6.1.2 Counties and quadrangles

The species accounts in this chapter refer to plant distribution in various California counties. Figure 6-1 shows the counties in northern California. In describing plant distribution, the species accounts also refer to “quadrangles.” A quadrangle is a rectangular area covered by a map, usually bounded by specified meridians of longitude and parallels of latitude. Figure 6-2 shows a partial quad map of Mendocino County.¹

¹ The United States Geological Survey (USGS) took responsibility for mapping the U.S. in 1879 and has been the primary civilian mapping agency ever since. The best known USGS maps are the 1:24,000-scale topographic maps, also known as 7.5-minute quadrangles. A 7.5-minute map shows an area that spans 7.5 minutes of latitude and 7.5 minutes of longitude. A degree of latitude is approximately 69 miles, so a minute of latitude is 69/60 or 1.15 miles. A degree of longitude varies in size. At the equator, it is about the same size as a degree of latitude—69 miles. The size gradually decreases to zero, however, as the meridians converge at the poles.

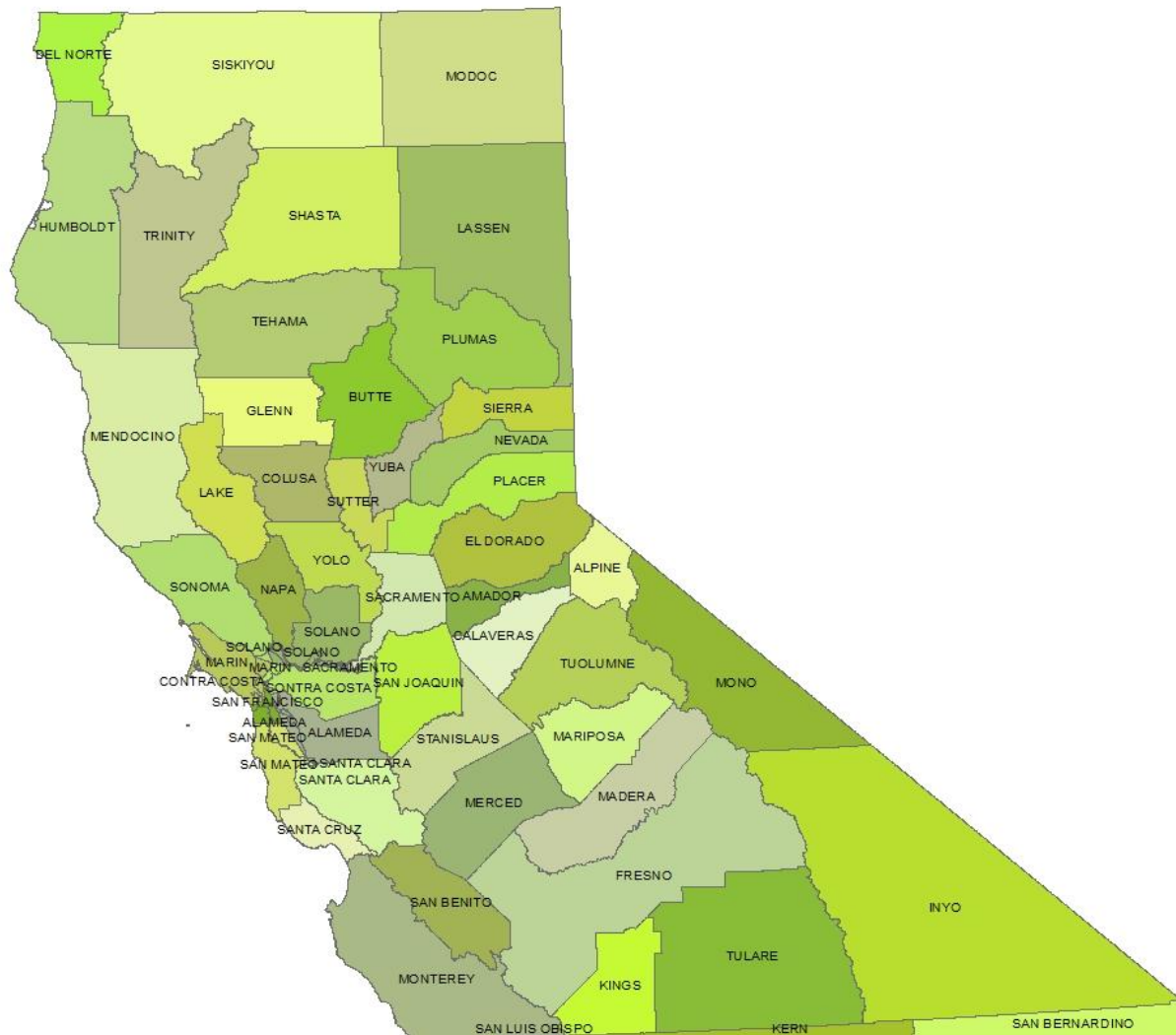


Figure 6-1 Counties of Northern California

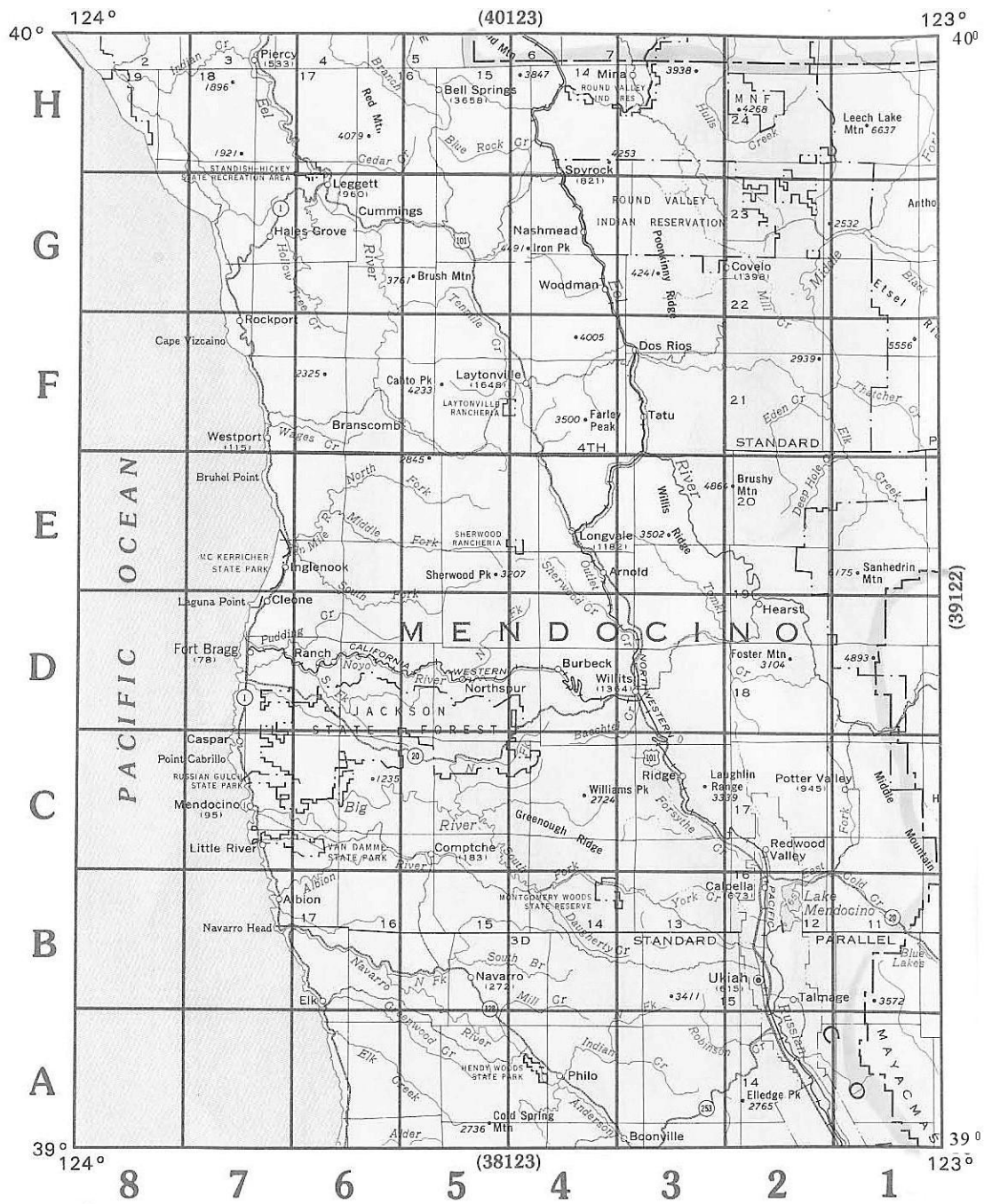


Figure 6-2 Partial Map of Mendocino County with 7.5 Minute Quadrangles

6.2 Sensitivities of Rare Plants to Timber Management

In the species accounts that follow in the remainder of this chapter, we indicate which plants are in the plan area, as well as those that occur in quadrangles into which the plan area borders or extends. Timber management has the potential to affect any covered plant species in the plan area. Potential effects include direct and indirect impacts to habitats and individual plants, as summarized in Table 6-1.

The terms *direct impact* and *indirect impact* are conceptually on a continuum. Direct impacts will be relatively more immediate, on-site, and easily ascribed to a covered activity. Indirect impacts may be delayed, on-site or remote, and mediated by intermediate processes related to a covered activity (e.g., mass wasting). Likewise, impacts on habitat and individuals are tied together. Damage from a mechanical device is an obvious direct impact on an individual plant. Even if a plant shows no damage from a mechanical device, resultant changes in the adjacent habitat may reduce the plant's ability to persist and, therefore, be a direct impact on the individual plant.

Table 6-1 Potential Impacts of Covered Activities on Rare Plant Species and Habitats

	Direct Impacts	Indirect Impacts
Potential Effects on Habitats	<ul style="list-style-type: none"> ▪ Direct loss or modification of habitat; usually immediately obvious but may extend over a longer time period; characterized by on-site soil disturbance and changes in vegetation that affects temperature and humidity. 	<ul style="list-style-type: none"> ▪ Loss or modification of habitat; often delayed over an extended time period, such as accelerated erosion; weed invasion; hydrologic changes; and changes in competitor, predator, or commensal (e.g., mycorrhizal fungi) communities.
Potential Effects on Species	<ul style="list-style-type: none"> ▪ Death or injury to individual plants, or reduced vigor, longevity, or changes in reproductive capacity, from mechanical damage, burying, or uprooting, and the immediate changes brought about by these direct effects on habitat. 	<ul style="list-style-type: none"> ▪ Death or injury to individual plants or loss of reproductive capacity, from accelerated erosion; weed invasion; hydrologic changes; reduced pollinator abundance; and changes in competitor, predator, or commensal (e.g., mycorrhizal fungi) communities. .

Unless timber operations avoid individual plants and their habitats, such operations could potentially harm most covered plant species. However, covered species vary in their sensitivity to habitat modification as a result of timber management. Humboldt milk-vetch (*Astragalus agnicidus*), for example, is often associated with logged areas and sites with recent ground disturbance (Berg and Bittman 1988, Hiss and Pickart 1992, Nakamura and Nelson 2001, CNDDDB 2006). According to our monitoring results, ground disturbance from logging and road maintenance, which may mimic in some respects natural forest disturbance, appears to promote the reproduction of Humboldt milk-vetch. Likewise, maple-leaved checkerbloom (*Sidalcea malachroides*) is often found on disturbed sites (Nakamura and Nelson 2001, CNDDDB 2006). Data indicates that long-beard lichen (*Usnea longissima*) is also more abundant in younger, previously harvested timberlands than in old-growth forests within national and state parks (Doell 2004). At present, the “strongest” populations of long-beard lichen in California are thought to occur on Pacific Lumber Company land in Humboldt County (Peterson 2005).

6.3 Humboldt Milk-vetch (*Astragalus agnicidus*)

6.3.1 Conservation status

Federal Status	State Status	CRPR
None	SE	1B.1



Photo from CNPS

6.3.2 Distribution

6.3.2.1 General distribution

Humboldt milk-vetch is endemic to California, occurring only in Humboldt and Mendocino counties. The first discovery of several small populations was in Humboldt County on a ranch south of Miranda. During the 1920s, ranch owners targeted the plant for weed eradication, reportedly implicating it in the death of lambs. After 1954, Humboldt milk-vetch was presumed extinct since there were no further sightings. Efforts to relocate Humboldt milk-vetch were unsuccessful during the 1970s. In 1987, the species was rediscovered on a ranch near Miranda (Berg and Bittman 1988). Some thought that dormant seeds, which had persisted in the soil for decades, were stimulated to germinate when a tree on the ranch was felled, opening up the tree canopy. After its rediscovery, the ranch owner agreed to protect the milk-vetch in coordination with The Nature Conservancy (TNC) and the California Native Plant Society (CNPS) (CDFG 2001). Since the rediscovery of populations of Humboldt milk-vetch in the Miranda Quadrangle, occurrences have been reported from the Bridgeville, Myers Flat, and Redcrest quadrangles in Humboldt County (CNPS 2006, CNDDDB 2005).

In 1999, the first occurrences of Humboldt milk-vetch in Mendocino County were discovered in the Noyo Hill Quadrangle on a ridgetop logging road in Jackson Demonstration State Forest (JDSF) during a THP survey. Since the JDSF discovery, several occurrences have been identified in Mendocino County, primarily in openings on timberland within the Lincoln Ridge, Sherwood Peak, Bailey Ridge, Dutchmans Knoll, Westport, Hales Grove, Northspur, Cahto Peak, Greenough Ridge and Gualala quadrangles (CNDDDB 2005). Approximately 47 occurrences of Humboldt milk-vetch are known (CNDDDB 2009).

6.3.2.2 Plan area

Table 6-2 shows the occurrences of Humboldt milk-vetch in the plan area.

Table 6-2 Humboldt Milk-vetch in the Plan Area

Humboldt Milk-vetch in the Plan Area						
Project	NDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-00-437 MEN	n/a	Greenough Ridge	Russell Brook Big River	2000	20	NCFrs (road)
1-01-059 MEN	4	Gualala	Doty Creek Garcia	2001	5	NCFrs (landing)
1-01-183 MEN	22	Lincoln Ridge	Howard Creek Rockport	2002	77	NCFrs (road)
1-01-183 MEN	23	Lincoln Ridge	Howard Creek	2002	21	NCFrs (road)

Humboldt Milk-vetch in the Plan Area						
Project	NDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-01-220 MEN	10	Lincoln Ridge and Westport	Rockport Cottoneva Creek	2001	1427	NCFrs (road/landing)
1-02-057 MEN	16	Hales Grove	Cottoneva Creek Rockport	2001	8195	NCFrs (road/burn piles/skid trails/ clearcut)
1-02-266 MEN	14	Hales Grove	Cottoneva Creek Rockport	2001	4315	NCFrs (road)
1-02-274 MEN	9	Westport	Cottoneva Creek Rockport	2001	120	NCFrs (road/ burn pile)
1-02-274 MEN	11	Westport	Cottoneva Creek Rockport	2001	12	NCFrs (road)
1-02-274 MEN	12	Westport	Cottoneva Creek Rockport	2001	40	NCFrs (road/ landing)
Meese, D (OBS)	13	Westport	Juan Creek Rockport	2001	205	NCFrs (road)
1-02-305 MEN	15	Hales Grove	Cottoneva Creek Rockport	2001	75	NCFrs (road/ burnpile)
Road abandonment	21	Bailey Ridge	Little North Fork Navarro	2002	1	NCFrs (road)
Hollow Tree Creek Watershed Restoration Project – Phase I	n/a	Lincoln Ridge	Navarro East Upper Hollow Tree Creek Rockport	2003	200	NCFrs (road)
Road abandonment	n/a	Sherwood Peak	Middle Fork Noyo River Noyo	2004	100	NCFrs (road)
1-04-004 MEN	n/a	Westport	Hardy Creek Rockport	2005	7379	NCFrs (road)
1-04-290 MEN	n/a	Hales Grove	Cottoneva Creek and Middle Hollow Tree Creek	2004	1002	NCFrs (road/ skid trails)
1-04-264 MEN	n/a	Greenough Ridge	Rockport Rice Creek Big River	2007	45	NCFrs (road)
1-05-104 MEN	n/a	Lincoln Ridge	Howard Creek Rockport	2004	673	NCFrs (road)
1-06-143 MEN	n/a	Greenough Ridge	Russelbrook Big River	2007	5	NCFrs (road)
1-06-212 MEN	n/a	Bailey Ridge	Little North Fork Navarro	2007	3	NCFrs (road)
1-07-117 MEN	n/a	Bailey Ridge	Navarro East Little North Fork Navarro	2007	225	NCFrs (road)
1-08-169MEN	n/a	Mallo Pass Creek	Navarro East SF Elk Creek South Coast	2008	50	NCFrs (road)

6.3.3 Description and life history

Humboldt milk-vetch, a member of the pea family (Fabaceae), is a low, shrubby perennial up to 3.5 ft (1.1 m) tall, with hollow stems, pinnately-divided leaves, and many small white-pink flowers on a flower stalk. Its main blooming period is from June to September (CNPS 2006);

however, the plant has been observed blooming in the plan area as late as November.² Observations suggest that Humboldt milk-vetch is a short-lived perennial with an estimated life-span of 5-10 years (Bencie 1997).

Humboldt milk-vetch has a mixed mating system; seed production is through either selfing or out-crossing (Bencie 1997). The plant requires insect visitation for pollination, with a native bumblebee (*Bombus* sp.) the likely pollinator (Bencie 1997). Observations of bumblebee behavior indicate that most seed is produced through self-fertilization (Bencie 1997). Self-compatibility has been demonstrated in Humboldt milk-vetch (Bencie 1997); however, scientific studies have not determined the contribution of self-fertilization to overall seed production in the field. According to genetic data from one population, Humboldt milk-vetch may be subject to inbreeding depression (Bencie 1997). Optimum germination requires scarification of the seeds (Hiss and Pickart 1992). There is a persistent soil seed bank, presumed to be genetically diverse (Bencie 1997).

6.3.4 Habitat requirements

Humboldt milk-vetch grows in North Coast coniferous forest and broadleaved upland forest, typically on ridgetops at elevations ranging from 585-2250 ft (195-750 m) (CNPS 2006). Humboldt milk-vetch often occurs in forest canopy openings and edge habitats where there is soil disturbance. Results from monitoring indicate that Humboldt milk-vetch is an early successional species that requires disturbance to be self-sustaining (Hiss and Pickart 1992). Most often found in openings in the forest canopy, the species presumably is shade-intolerant. Occurrences of Humboldt milk-vetch in the plan area are typically within or adjacent to areas subject to recent disturbance, such as timber harvest, road construction, and road maintenance; a post-harvest survey may reveal plants undetected in a pre-harvest survey.

6.3.5 Threats

Threats to Humboldt milk-vetch include road maintenance and construction; interspecific competition, mainly with pampas grass (*Cortaderia jubata*); and canopy closure (CDFG 2001).

6.3.6 Population trend

Although the number of Humboldt milk-vetch occurrences has increased to 47 since rediscovery of the species in Humboldt County in 1987, there are no reported population trends for this species. MRC is monitoring some occurrences of Humboldt milk-vetch on our land.

6.3.7 Mendocino lighting complex (2008)

Fires or fire suppression activities affected approximately 88% of the Humboldt milk-vetch plants recorded on MRC timberlands, all of which occurred in the Rockport inventory block. Fire-fighters used roads, landings, and skid trails as fire breaks and staging areas. Such actions impacted approximately 16,400 individual plants or 96% of all affected milk-vetch.

² Personal observation of Dale Meese, RPF (MRC), Fort Bragg, CA, 2003

6.4 Small Groundcone (*Kopsiopsis hookeri*)

6.4.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.3



Photo by
Doreen L. Smith, 2001

6.4.2 Distribution

6.4.2.1 General distribution

Small groundcone occurs along the Pacific coast from Marin County, north to British Columbia, Canada (Hickman 1993). In California, this species occurs in Del Norte, Humboldt, Mendocino, and Marin counties (CNPS 2006, CNDDDB 2005). In Mendocino County, small groundcone occurs in Purdys Gardens and Elk quadrangles (CNPS 2006, CNDDDB 2005). The Elk Quadrangle occurrence in 2002 consisted of 5 plants found along a maintained rock road within pygmy transition forest (CNDDDB 2005). In California, there are 15 known occurrences of small groundcone—7 of them based on herbarium specimens collected from the 1940s to 1980. The current status of these 7 occurrences is unknown (CNDDDB 2005).

6.4.2.2 Plan area

Table 6-3 shows the occurrence of small groundcone in the plan area.

Table 6-3 Small Groundcone in the Plan Area

Project	NDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-02-059 MEN	9	Elk	Lower Albion River Albion	2002	5	NCFrs (pygmy) – road side

6.4.3 Description and life history

Small groundcone is a rhizomatous perennial herb in the broom-rape family (Orobanchaceae) that is parasitic on the roots of madrone, salal, and huckleberry (CNPS 2006). The plant has a fleshy purplish-to-pale yellow spike-like inflorescence with bracts that densely overlap resembling a pine cone. The reddish-brown flowers appear from April to August (CNPS 2006).

6.4.4 Habitat requirements

This species occurs in open and shrubby areas (Hickman 1993) within North Coast coniferous forest and closed-cone coniferous forest at elevations from 295 ft-2900 ft (90-885 m) (CNPS 2006).

6.4.5 Threats

Threats to small groundcone include road construction and maintenance (CNDDDB 2004).

6.4.6 Population trend

The population trend for small groundcone is unknown.

6.5 Pygmy Cypress (*Hesperocyparis pygmaea*)

6.5.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
Br. Alfred Brousseau

6.5.2 Distribution

6.5.2.1 General distribution

Pygmy cypress is endemic to Sonoma and Mendocino counties. In Mendocino County, there are reported occurrences in the following quadrangles: Gualala, Saunders Reef, Point Arena, Eureka Hill, Mallo Pass Creek, Elk, Mendocino, Comptche, Mathison Peak, Fort Bragg, and Noyo Hill (CNPS 2001, CNDDDB 2005). In total, 35 occurrences have been documented; with one exception, all are presumed extant and most are recently documented (CNDDDB 2005).

6.5.2.2 Plan area

Table 6-4 shows the occurrences of pygmy cypress in the plan area. Moreover, the plan area extends into Gualala, Saunders Reef, Point Arena, Eureka Hill, Mallo Pass Creek, Elk, Mendocino, Comptche, Mathison Peak, and Noyo Hill quadrangles where there are reported occurrences for this species (CNPS 2006, CNDDDB 2005).

Table 6-4 Pygmy Cypress in the Plan Area

Project	NDDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-01-182 MEN	27	Mendocino	Russian Gulch Albion	2002	300	NCFrs (RW/pygmy transitional) – road/ landing/ skid trails
n/a	n/a	Mendocino	Little River Albion	2007	several	CCFrS (pygmy)
n/a	n/a	Mathison Peak	Lower Albion Albion	2007	several	CCFrS (pygmy)
n/a	n/a	Elk	Lower Albion Albion	2007	several	CCFrS (pygmy)

6.5.3 Description and life history

Pygmy cypress is a small, evergreen, closed-cone coniferous tree in the cypress family (Cupressaceae). The tree reaches 3-7 ft (1-2 m) in height in podzolized soil and 33-164 ft (10-50 m) in nutrient rich soil. The trees have a long whip-like terminal shoot and dark green 4-ranked

scale-like leaves. Seed cones are small, 12-25 mm wide (Hickman 1993). Cone production is abundant on dwarfed and mature trees that are 4 years of age or older, but is rare or absent on young trees. The cones require 2 years to mature and persist on trees until opened by the heat of a fire or from desiccation due to age. Seed dispersal is primarily by wind and rain. Bare mineral soil conditions are required for seed germination and establishment (Esser 1994).

6.5.4 Habitat requirements

Pygmy cypress occurs in podzolized soils within closed-cone coniferous forest at elevations from 90-1500 ft (30-500 m) (CNPS 2006). This tree is often found associated with Bolander's pine and bishop pine within Mendocino Pygmy Forest. Pygmy cypress is also found in North Coast coniferous forest habitats that are adjacent to and integrate with pygmy forest, locally called "transitional pygmy" forest.³

6.5.5 Threats

Threats to pygmy cypress include development, vehicles, and fire suppression (CNPS 2006, Esser 1994).

6.5.6 Population trend

The population trend for pygmy cypress is unknown.

6.6 Swamp Harebell (*Campanula californica*)

6.6.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
Doreen L. Smith, 2001

6.6.2 Distribution

6.6.2.1 General distribution

Swamp harebell is endemic to California, occurring along the coast of northern California in Marin, Sonoma, and Mendocino counties, and extirpated from Santa Cruz County (CNPS 2006). In Mendocino County this plant occurs in the Gualala, Saunders Reef, Point Arena, Navarro, Elk, Albion, Mathison Peak, Mendocino, Noyo Hill, Fort Bragg, Dutchmans Knoll, and Inglenook quadrangles (CNPS 2006, CNDDDB 2005). Approximately 100 occurrences are known from California; 4 are thought to be extirpated, and 30 occurrence records are historic (date from before 1985) (CNDDDB 2005).

6.6.2.2 Plan area

Table 6-5 shows the occurrences of swamp harebell in the plan area. Moreover, the plan area extends into Gualala, Point Arena, Navarro, Elk, Albion, Mathison Peak, Mendocino, and Noyo

³ Teresa Sholars (College of the Redwoods) relayed this information in a telephone conversation with Ann Howald (MRC consultant) in November 2005.

Hill quadrangles, where this species does occur.

Table 6-5 Swamp Harebell in the Plan Area

Project	NDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-01-113 MEN	n/a	Gualala	Point Arena Creek Garcia	2001	several	NCFrs (crossing culvert)
1-06-152 MEN	n/a	Gualala and Saunders Reef	Point Arena Creek Garcia	2007	>5400	NCFrs/CCFrS mesic (roads, ditches, skid trails, crossings)
1-06-165 MEN	n/a	Eureka Hill	Rolling Brook Garcia	2007	>40,000	NCFrs (wet landing, mesic grass opening)
1-06-211 MEN	n/a	Gualala	South Fork Garcia River Garcia	2007	>2000	NCFrs/CCFrS mesic (Class II watercourse, in and adjacent to existing roads)
1-06-218 MEN	n/a	Mallo Pass and Cold Spring	Mallo Pass Creek Alder	2007	≅ 600	NCFrs/CCFrS mesic (Class III watercourse, wet areas)

6.6.3 Description and life history

Swamp harebell is a rhizomatous perennial herb in the bellflower family (Campanulaceae). The stems are reclining to erect with stiff hairs and thin leaves that have a distinct crenate margin. The plants reach 4 to 12 in. (10-30 cm) in height and produce pale blue, bell-shaped flowers (Hickman 1993) from June through October (CNPS 2006).

6.6.4 Habitat requirements

Swamp harebell occurs in several wetland habitat types along the coast, such as bog and fen, meadow and seep, and freshwater marsh and swamp. The species also occurs in mesic sites within coastal prairie, closed-cone coniferous forest, and North Coast coniferous forest habitats at elevations from 3-1215 ft (1-405 m) (CNPS 2006). Swamp harebell is an obligate (OBL) wetland species.

6.6.5 Threats

Threats to swamp harebell include livestock grazing, development, loss of marsh habitat, and logging (CNPS 2006). Overstory growth resulting from fire suppression, habitat alteration, and succession may shade the open habitats preferred by this species.

6.6.6 Population trend

The population trend for swamp harebell is unknown.

6.7 California Sedge (*Carex californica*)

6.7.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.3



Photo by
Rick York, 1986

6.7.2 Distribution

6.7.2.1 General distribution

California sedge occurs in coastal northern California, Oregon, Washington, Idaho, and other states. In California the species occurs only along the coast of Mendocino County within Eureka Hill, Point Arena, Elk, Albion, Noyo Hill, Mathison Peak, Fort Bragg, and Mendocino quadrangles (CNPS 2006, CNDDDB 2005). Reports from California cite 28 occurrences, of which 26 date from the mid-1980s (CNDDDB 2005).

6.7.2.2 Plan area

California sedge has not been found in the plan area; however, the plan area extends into Eureka Hill, Point Arena, Elk, Albion, Noyo Hill, Mathison Peak, and Mendocino quadrangles where there are reported occurrences of this species.

6.7.3 Description and life history

California sedge is a rhizomatous perennial herb in the sedge family (Cyperaceae). The plants reach 8-28 in. (20-70 cm) in height, with gray-green grass-like leaves; basal blades are minute. The pistillate flower bracts are purplish-brown and glandular-papillate along the midstripe (Hickman 1993). California sedge blooms from May to August (CNPS 2006).

6.7.4 Habitat requirements

California sedge occurs in wetlands such as bogs, fens, and along the margins of marsh and swamp habitats; the species also occurs in mesic sites within closed-cone coniferous forest (including pygmy forest), and coastal prairie, at elevations from 270-1005 ft (90-335m) (CNPS 2006). California sedge is a facultative (FAC) plant species.

6.7.5 Threats

Threats to California sedge include illegal dumping, road maintenance and construction, off-road vehicle use, and development (CNDDDB 2005).

6.7.6 Population trend

The population trend for California sedge is unknown.

6.8 Bristly Sedge (*Carex comosa*)

6.8.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.1



Photo by
Dr. Dean Wm. Taylor, 1973

6.8.2 Distribution

6.8.2.1 General distribution

Bristly sedge occurs in California; in Idaho, where the species is endangered; and in Washington, where bristly sedge is listed by the state as sensitive. The species is extirpated in Oregon. In California, bristly sedge occurs in Contra Costa, Lake, Mendocino, Shasta, San Joaquin, and Sonoma counties (CNPS 2006, CNDDDB 2005). The species has been extirpated from San Bernardino, San Francisco, and Santa Cruz counties. Occurrences in Mendocino County have been documented in the Hopland quadrangle (CNPS 2006, CNDDDB 2005). Approximately 6 extant occurrences are known from California, including 3 recent sightings (1988, 1997, and 1999) (CNDDDB 2005). The other 3 are based on herbarium specimens from the 1920s and 1940s (CNDDDB 2005).

6.8.2.2 Plan area

Bristly sedge has not been found in the plan area, nor does the plan area extend into quadrangles where this species occurs. However, there are known occurrences of bristly sedge within the *adjustment area* of this HCP/NCCP.

6.8.3 Description and life history

Bristly sedge is a rhizomatous perennial herb in the sedge family (Cyperaceae). The plants grow 20-40 in. (50-100 cm) tall, with the lower spikelets on a distinct long, nodding stalk. The awned pistillate flower bracts are white or cream with a pale reddish center. The fruits have perigynia (sac-like structures enclosing the seeds) that are green to gold (Hickman 1993). Bristly sedge is seen blooming from May to September (CNPS 2006).

6.8.4 Habitat requirements

Bristly sedge occurs along lake margins, in mesic areas within coastal prairie, valley, and foothill grassland, and in marsh and swamp habitats with elevations below 990 ft (3-230m) (CNPS 2001). As an obligate (OBL) wetland species, bristly sedge has at least a 99% likelihood of occurring in wetlands (Reed 1988, USFWS 1997d).

6.8.5 Threats

Threats to bristly sedge include agriculture, grazing, and loss of marsh habitat (CNDDDB 2005).

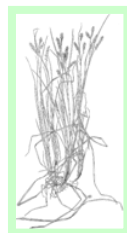
6.8.6 Population trend

The population trend for bristly sedge is unknown.

6.9 Deceiving Sedge (*Carex saliniformis*)

6.9.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Drawing from Texas
A&M University

6.9.2 Distribution

6.9.2.1 General distribution

Deceiving sedge is endemic to California, occurring along the coast of northern California in Sonoma, Mendocino, and Humboldt counties, but has been extirpated from Santa Cruz County (CNDDDB 2005). In Mendocino County, occurrences have been documented within the following quadrangles: Point Arena, Elk, Mallo Pass Creek, Mendocino, Noyo Hill, Fort Bragg, and Inglenook (CNDDDB 2005). Of the 14 extant occurrences, 10 are based on herbarium specimens collected prior to 1940 and 4 have been recorded since 1980 (CNDDDB 2005).

6.9.2.2 Plan area

Deceiving sedge has not been found in the plan area; however, the plan area extends into Point Arena, Elk, Mallo Pass Creek, Mendocino, and Noyo Hill quadrangles where there are reported occurrences of this species.

6.9.3 Description and life history

Deceiving sedge is a rhizomatous perennial herb in the sedge family (Cyperaceae). Plants are densely tufted with narrow grass-like leaf blades that are 2-5 mm wide. Inflorescences are long-stalked with leaf-like pistillate flower bracts that have stout awns and are green with a white or red-brown margin (Hickman 1993). Flowering occurs from May to August (Jepson Online Interchange 2006).

6.9.4 Habitat requirements

Deceiving sedge occurs in meadow, seep, coastal salt marsh and swamp wetlands; the species also occurs in mesic areas of coastal prairie and coastal scrub habitats at elevations from 9-690 ft (3-230 m) (CNPS 2001). As a facultative wetland (FACW) species, deceiving sedge has a 67-99% likelihood of occurring in wetlands (Reed 1988, USFWS 1997d).

6.9.5 Threats

Threats to deceiving sedge include residential development near marshes (CNDDDB 2005).

6.9.6 Population trend

The population trend for deceiving sedge is unknown.

6.10 Green Sedge (*Carex viridula* var. *viridula*)

6.10.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.3

6.10.2 Distribution

6.10.2.1 General distribution

Within California, known occurrences of green sedge are only in Del Norte, Humboldt, and Mendocino counties. However, the species is widespread outside of California (CNPS 2001). In Mendocino County, 1 occurrence has been documented within the Inglenook Quadrangle, based on a herbarium specimen from before 1910 (CNPS 2006, CNDDDB 2005). Approximately 6 occurrences are known from California; 5 of these are based on herbarium specimens from 1944 or earlier (CNDDDB 2005).

6.10.2.2 Plan area

Green sedge has not been found in the plan area, nor does the plan area extend into quadrangles where this plant occurs in Mendocino County. However, 1 occurrence of green sedge is within the *adjustment area* of this HCP/NCCP.

6.10.3 Description and life history

Green sedge is an herbaceous perennial belonging to the sedge family (Cyperaceae). Plants are densely tufted, reaching 16 in. (40 cm) in height with narrow (1.5-3 mm) leaf blades. Inflorescences are dense with lower spikelet bracts that are taller than the height of the inflorescences. Pistillate flower bracts are reddish with a green center and perigynia are narrowly conic, ribbed, and yellow-green to brown (Hickman 1993). Green sedge blooms from June to September (CNPS 2006).

6.10.4 Habitat requirements

Green sedge occurs within wetlands, such as freshwater marsh, swamp, bog, and fen, and in mesic sites within North Coast coniferous forest at elevations from 3-4800 ft (0-1600m) (CNPS 2006). As an obligate (OBL) wetland species, green sedge has at least a 99% likelihood of occurring in wetlands (Reed 1988, USFWS 1997d).

6.10.5 Threats

Specific threats to green sedge are unknown.

6.10.6 Population trend

The population trend for green sedge is unknown.

6.11 Oregon goldthread (*Coptis laciniata*)

6.11.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.2



Photo by
Elicia Wise,
2007

6.11.2 Distribution

6.11.2.1 General distribution

In the California floristic province, Oregon goldthread is known from the North Coast and Klamath Ranges (Hickman 1993). This species occurs throughout Oregon and Washington and is not considered rare outside of California. Oregon goldthread has been reported from Mendocino, Humboldt, Del Norte and Siskiyou Counties. In Mendocino, this species occurs in the Mathison Peak, Noyo Hill, Elk, Northspur, Comptche, Leggett, Point Arena and Cold Spring Quadrangles (CNDDB 2008).

6.11.2.2 Plan area

Table 6-6 shows the occurrences of Oregon goldthread in the plan area. The plan area extends into the Noyo Hill and Northspur quadrangles where there are reported occurrences for this species (CNDDB 2008).

Table 6-6 Oregon Goldthread in the Plan Area

Oregon Goldthread in the Plan Area						
Project	NDDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	Est. # Plants	Habitat
1-05-207 MEN	4	Elk	SF Albion River Albion	2006	65	NCFrs – riparian/ stream banks
1-06-223 MEN	n/a	Mathison Peak	SF Albion River Albion	2007	60	NCFrs – riparian ≅ 100' upslope of SF Albion
Goldsworthy, M. (OBS)	n/a	Leggett	Middle Hollow Tree Creek Rockport	2007	30	NCFrs – riparian/ stream banks at confluence
Goldsworthy, E. (OBS)	n/a	Comptche	Upper Albion River Albion	2007	25	NCFrs – riparian/ stream banks
Ulrich, D. (OBS)	n/a	Comptche	Two Log Creek Big River	2007	40	NCFrs – riparian/ stream banks

Oregon Goldthread in the Plan Area						
Project	NDDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	Est. # Plants	Habitat
Goldsworthy, M. (OBS)	n/a	Point Arena	Lower Alder Creek South Coast	2007	25	NCFrs – riparian/ stream banks
Douglas, R. (OBS)	n/a	Cold Spring	Lower Alder Creek South Coast	2007	50	NCFrs – riparian/ stream banks

6.11.3 Description and life history

Oregon goldthread is a perennial herb in the Ranunculus family (Ranunculaceae). The species is low growing from a slender yellowish rhizome or stolon. The stems are short, simple, stout, and scaly. There are typically 3 to 8 basal leaves which are generally 1-ternate, long-petiolate, leathery, and evergreen. The leaflets are ovate to triangular, generally terminal stalked with 3 very deep, irregularly toothed lobes. The inflorescence peduncle is generally shorter than the leaves when in flower and longer than leaves when in fruit (Hickman 1993). This species is an early bloomer, flowering in March and April. The flowers are radial, bisexual, or sometimes staminate and the sepals are petal-like and early-deciduous.

6.11.4 Habitat requirements

Oregon goldthread typically occurs in mesic sites such as meadows and seeps in coniferous forest and is often found on streambanks (CNPS 2008). The species occurs at elevations less than 3300 ft. (1000m).

6.11.5 Threats

No threats are currently known for Oregon goldthread.

6.11.6 Population trend

The population trend for Oregon goldthread is unknown.

6.12 Streamside Daisy (*Erigeron biolettii*)

6.12.1 Conservation status

Federal Status	State Status	CRPR
None	None	3



Photo by
Dr. Dean Wm. Taylor, 1996

6.12.2 Distribution

6.12.2.1 General distribution

Streamside daisy is endemic to California, occurring in Humboldt, Mendocino, Sonoma, Marin, Napa, and Solano counties. Only 1 occurrence in Mendocino County has been reported, within the Philo Quadrangle (CNPS 2006). RareFind3 (CNDDDB 2005) currently does not track

occurrences for this species, although data is on file; likewise, no other database has summarized accurate occurrence information for this species. As a result, the total number of extant occurrences is difficult to determine. The Jepson Online Interchange (2006) lists 24 herbarium specimens of this species; however, all but 2 of these were collected prior to 1950. In 2005, the type locality for streamside daisy, near the summit of Hood Mountain in Sonoma County, was relocated after lack of documentation for more than 50 years.⁴

6.12.2.2 Plan area

Streamside daisy has not been found in the plan area; however, the plan area extends into Philo Quadrangle where there are documented occurrences for this species.

6.12.3 Description and life history

Streamside daisy is an herbaceous perennial in the sunflower family (Asteraceae). The plant branches from a woody caudex, is densely glandular, and reaches 36 in. (90cm) in height. The alternate cauline leaves are narrowly oblanceolate and evenly sized and spaced. Its inflorescences are flat-topped clusters of yellow discoid heads (Hickman 1993) that bloom from June to September (CRPR 2006, 2005).

6.12.4 Habitat requirements

Streamside daisy occurs in rocky substrates along dry slopes and mesic river ledges within broadleaved upland forest, cismontane woodland, and North Coast coniferous forest habitats at elevations from 90-3300 ft (30-1100m) (CNPS 2006, Hickman 1993).

6.12.5 Threats

Specific threats to streamside daisy are unknown.

6.12.6 Population trend

The population trend for streamside daisy is unknown.

6.13 Coast Fawn Lily (*Erythronium revolutum*)

6.13.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.2



Photo from CNPS

6.13.2 Distribution

6.13.2.1 General distribution

Coast fawn lily occurs from California to British Columbia, Canada. The species is state-listed as sensitive in Washington and on a watch list in Oregon. In California, coast fawn lily is within Del Norte, Siskiyou, Humboldt, Mendocino, and Sonoma counties. In Mendocino County, 6

⁴ Personal observation of Ann Howald (MRC consultant) in 2005

occurrences have been reported from the Sherwood Peak, Leggett, Piercy, Comptche, Navarro, and Philo quadrangles (CNPS 2006, CNDDB 2009). From California, 79 occurrences are known (CNDDB 2009), of which 14 are historic (reported between 1897 and 1933) and have not been relocated. On privately managed timberlands in Humboldt County, 23 new occurrences have been confirmed since 2002 (CNDDB 2005).

6.13.2.2 Plan area

Coast fawn lily has not been found in the plan area; however, the plan area extends into the Comptche, Leggett, Navarro, Philo, and Sherwood Peak quadrangles where there are reported occurrences of this species.

6.13.3 Description and life history

Coast fawn lily is a bulb-forming herb within the lily family (Liliaceae). The plant has two basal leaves when in flower, which are mottled with brown or white. Inflorescence stalks reach 6-20 in. (15-50 cm) with 1-3 showy flowers that are pink with a yellow band at the base (Hickman 1993). This species blooms from March to June (CNPS 2006).

6.13.4 Habitat requirements

Coast fawn lily occurs in wetlands, such as bogs and fens, and in mesic areas within North Coast coniferous forest and broadleaved upland forest habitats. Often the plant occurs along streambanks, at elevations below 3200 ft (0-1065 m) (CNPS 2006). Coast fawn lily is a facultative (FAC) plant species.

6.13.5 Threats

Threats to coast fawn lily include road maintenance and habitat alteration due to timber harvesting (CNDDB 2005).

6.13.6 Population trend

The population trend for this species is unknown.

6.14 Roderick's Fritillary (*Fritillaria roderickii*)

6.14.1 Conservation status

Federal Status	State Status	CRPR
None	SE	1B.1



Photo by
Robert Potts, 2001

6.14.2 Distribution

6.14.2.1 General distribution

Roderick's fritillary is known from approximately 12 sites within the Saunders Reef, Philo, Boonville, Laughlin Range, and Fort Bragg quadrangles in Mendocino and Sonoma counties (CNPS 2006). All of the Sonoma County occurrences were introduced from plants salvaged in

Mendocino County; none of these introductions has led to successful establishment (CNDDDB 2005). Of the 8 known occurrences in Mendocino County, 5 are native and 3 are introduced. From the Point Arena Quadrangle, 1 native occurrence is thought to be extirpated. The native population in Boonville's Evergreen Cemetery had several hundred plants in 2004. A second population, which is on private land with a portion in a CalTrans right-of-way, was partially destroyed during work to improve State Hwy 1; some plants were transplanted in 1985 during construction, none of which survived. CalTrans now works to avoid impacts to the remaining plants within its right-of-way at this location. A third population, first reported in 1992 from private land in the Saunders Reef Quadrangle, had 1000 plants in 1992 but declined sharply by 1998 (CNDDDB 2005). The most recent CDFG information from the fourth population dates from 1991, when 10 plants were observed (CDFG 2001). In Mendocino County, 3 populations are introduced: 2 in the Gualala Quadrangle and 1 on private land in the Saunders Reef Quadrangle (CNDDDB 2006).

6.14.2.2 Plan area

Roderick's fritillary has not been found in the plan area; however, the plan area extends into quadrangles where there are reported occurrences of this species.

6.14.3 Description and life history

Roderick's fritillary, a member of the lily family (Liliaceae), is a slender perennial that arises from a bulb, with narrow strap-like leaves, and nodding, greenish-brown to purplish-brown flowers (Hickman 1993). The blooming period is from March through May (CNPS 2006).

6.14.4 Habitat requirements

Roderick's fritillary occurs in heavy clay soils in oak woodland, valley foothill grassland, coastal bluff scrub, and coastal prairie habitats, at elevations from ± 48 -384 ft (15-120 m) (CNPS 2006).

6.14.5 Threats

Threats to Roderick's fritillary include road maintenance, residential development, grazing, and erosion (CNPS 2006).

6.14.6 Population trend

Population levels of Roderick's fritillary are declining (CDFG 2001).

6.15 Pacific Gilia (*Gilia capitata* ssp. *pacifica*)

6.15.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo from
CA Academy of
Sciences

6.15.2 Distribution

6.15.2.1 General distribution

Pacific gilia occurs along the Pacific Coast of California and Oregon. In California, this plant has been documented within Del Norte, Humboldt, and Mendocino counties. Occurrences have been reported from Point Arena, Elk, Albion, Mendocino, Fort Bragg, Bear Harbor, and Willits quadrangles within Mendocino County (CNPS 2006, CNDDDB 2005). From California, 30 occurrences are currently known, of which 17 are based on records older than 20 years; the current status of these occurrences is unknown (CNDDDB 2005). On commercial timberlands in Humboldt County, 8 new occurrences have been found since 2003 (CNDDDB 2005).

6.15.2.2 Plan area

Pacific gilia has not been found in the plan area; however, the plan area extends into quadrangles where there are reported occurrences of this species.

6.15.3 Description and life history

Pacific gilia is an annual herb in the phlox family (Polemoniaceae). Its stems are branched, with twice-pinnate leaves. Inflorescences are terminal spheric heads with 50-100 pale-to-bright blue-violet flowers (Hickman 1993) that bloom from May to August (CNPS 2006).

6.15.4 Habitat requirements

This species occurs in coastal bluff scrub and coastal prairie habitats at elevations from 15-900 ft (5-300m) (CNPS 2006).

6.15.5 Threats

Threats to Pacific gilia include development, recreational activities, and logging (CNPS 2006, CNDDDB 2005).

6.15.6 Population trend

The population trend for pacific gilia is unknown.

6.16 Glandular Western Flax (*Hesperolinon adenophyllum*)

6.16.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
John Game, 2002

6.16.2 Distribution

6.16.2.1 General distribution

Glandular western flax is endemic to California and is known only from Lake and Mendocino counties. Historically, this plant was known from Humboldt County where today the species is thought to be extirpated (CNPS 2006). In Mendocino County, occurrences have been reported from Highland Springs, Van Arsdale Reservoir, Cow Mountain, Redwood Valley, Potter Valley,

Willits, Burbeck, Greenough Ridge, Sanhedrin Mountain, and Longvale quadrangles (CNPS 2001, CNDDB 2005). Approximately 40 extant occurrences are known for this species, of which 22 are historic and have not been relocated for 20 or more years (CNPS 2006, CNDDB 2005).

6.16.2.2 Plan area

Glandular western flax has not been found in the plan area.

6.16.3 Description and life history

Glandular western flax is an annual herb in the dwarf flax family (Linaceae). Plants reach 4-20 in. (10-50 cm) in height. The leaves are whorled or opposite below and alternate above, lanceolate, keeled, and clasping, with margins that have 1 or 2 rows of gland-tipped teeth. Inflorescences are generally open cymes with yellow flowers that are often veined or tinged orange (Hickman 1993); blooming time is from May to August (CNPS 2006).

6.16.4 Habitat requirements

Glandular western flax occurs on serpentine substrates within valley and foothill grassland, cismontane woodland, and chaparral habitats at elevations from 450-3945 ft (150-1,315 m) (CNPS 2006).

6.16.5 Threats

Threats to glandular western flax include geothermal development, recreation, and grazing (CNPS 2006).

6.16.6 Population trend

The population trend for this species is unknown.

6.17 Thin-lobed Horkelia (*Horkelia tenuiloba*)

6.17.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
Doreen L. Smith, 1994

6.17.2 Distribution

6.17.2.1 General distribution

Thin-lobed horkelia occurs only in coastal northern California within Marin, Sonoma, and Mendocino counties. In Mendocino County, occurrences have been reported from McGuire Ridge, Willis Ridge, Point Arena, Saunders Reef, and Gualala quadrangles (CNPS 2006, CNDDB 2005). In California, 27 occurrences for this species are known; several are based on herbarium collections that predate 1960, and are from sites that lack current information (CNDDB 2005).

6.17.2.2 Plan area

Thin-lobed horkelia has not been found in the plan area; however, the plan area extends into quadrangles where there are reported occurrences of this species.

6.17.3 Description and life history

Thin-lobed horkelia is a loosely matted perennial herb within the rose family (Rosaceae). Plants are green to reddish in color with appressed hairy herbage. The leaves are pinnately dissected with 8-15 narrow and deeply lobed, crowded leaflets per side. The inflorescence is a dense or open cyme with few-to-many white flowers (Hickman 1993) that bloom from May to July (CNPS 2006).

6.17.4 Habitat requirements

Thin-lobed horkelia occurs in sandy soils and mesic openings within coastal scrub, chaparral, and broadleaved upland forest habitats at elevations from 150-1500 ft (50-500m) (CNPS 2006, CNDDB 2005).

6.17.5 Threats

Threats to thin-lobed horkelia include invasive pest plants, trail maintenance, and development (CNDDB 2005).

6.17.6 Population trend

The population trend for thin-lobed horkelia is unknown.

6.18 Hair-leaved Rush (*Juncus supiniformis*)

6.18.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.2



Photo by
Kerry Dressler

6.18.2 Distribution

6.18.2.1 General distribution

Hair-leaved rush occurs in California, as well as other states. In California, the species is in Del Norte, Humboldt, and Mendocino counties. In Mendocino County, the species has been reported from Mendocino and Fort Bragg quadrangles (CNPS 2006). Mendocino County occurrences are all historic; herbarium specimens verifying these occurrences were collected in 1866 and 1937 (CalFlora 2005). The location data on the herbarium specimens is not specific enough for the CNDDB to map these occurrences or to determine the exact number of locations where this species has been found. Herbarium specimen data indicate this species has been found in 2-4 separate locations in Mendocino County (Jepson Online Interchange 2006).

6.18.2.2 Plan area

Hair-leaved rush has not been found in the plan area; however, the plan area extends into Mendocino Quadrangle where there are reported occurrences of this species.

6.18.3 Description and life history

Hair-leaved rush is a rhizomatous perennial herb in the rush family (Juncaceae). When young, this herb is a submerged aquatic species and grows to be a caespitose plant reaching 3.2-16 in. (8-40 cm) in height with matted rhizomes that are slender and spreading. The stem nodes often root, giving rise to new plantlets. Erect flower stems appear as the water recedes. Submerged leaves are often hair-like and membranous; cauline leaves are cylindrical with crosswalls that are complete but obscure. Inflorescences are terminal with 2-6 clusters of 3-9 flowers (Hickman 1993) that bloom from April to June (CNPS 2006).

6.18.4 Habitat requirements

Hair-leaved rush occurs in wetlands such as freshwater marsh, swamp, bog, and fen habitats along the coast at elevations from 60-300 ft (20-100 m) (CNPS 2006). As an obligate (OBL) wetland species, hair-leaved rush has at least a 99% likelihood of occurring in wetlands (Reed 1988, USFWS 1997d).

6.18.5 Threats

Specific threats to hair-leaved rush are unknown.

6.18.6 Population trend

The population trend for this species is unknown.

6.19 Coast Lily (*Lilium maritimum*)

6.19.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.1



Photo by
Br. Alfred Brousseau

6.19.2 Distribution

6.19.2.1 General distribution

Coast lily is endemic to California occurring only in Mendocino, Sonoma, Marin, and possibly San Francisco counties. Historical occurrences of this species were from San Mateo Quadrangle, where the species is thought to be extirpated (CNPS 2006). In Mendocino County, there are reported occurrences from Eureka Hill, Point Arena, Saunders Reef, Gualala, Elk, Albion, Noyo Hill, Mathison Peak, Comptche, Fort Bragg, Mendocino, Westport, and Inglenook quadrangles (CNPS 2006, CNDDB 2005). Of the 66 reported occurrences for coast lily, 13 are historic (CNDDB 2005).

6.19.2.2 Plan area

Table 6-7 shows the occurrence of coast lily in the plan area; however, the plan area extends into most of the quadrangles where there are reported occurrences of this species.

Table 6-7 Coast Lily in the Plan Area

Project	NDDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-06-211 MEN	n/a	Gualala	Rolling Brook Garcia	2007	≅ 5-10	CCFrS
Shively, R. (OBS)	n/a	Cold Spring	Lower Alder Creek South Coast	2007	2-3	NCFrS – drafting site
Shively, R. (OBS)	n/a	Cold Spring	Lower Alder Creek South Coast	2007	3-4	NCFrS – below existing road

6.19.3 Description and life history

Coast lily is a bulbiferous perennial herb in the lily family (Liliaceae). Plants reach 1-8 ft (0.3-2.7m) in height, and have linear leaves in whorls or scattered along the stems. The nodding flowers are bell-shaped and the sepals and petals are reflexed or rolled back about 1/3 to 1/2 the length of the corolla (Skinner 2004). The flowers are orange-to-reddish with maroon spots concentrated on the mid-to-basal portions of the flowers (Hickman 1993). This species blooms from May to July (CNPS 2006).

6.19.4 Habitat requirements

Coast lily occurs in broadleaved upland forest, freshwater marshes and swamps, closed-cone coniferous forest, coastal prairie, coastal scrub, and North Coast coniferous forest habitats at elevations from 15-1005 ft (5-335 m), typically within 1-2 miles of the coast. Coast lily is a facultative wetland (FACW) species.

6.19.5 Threats

Threats to coast lily include roadside and trail maintenance, urbanization, horticultural collecting, habitat fragmentation, timber harvesting, prescribed burning, and grazing by deer (CNPS 2006, CNDDDB 2005).

6.19.6 Population trend

The population trend for this species is unknown.

6.19.7 Mendocino lighting complex (2008)

Lightning fires impacted 2 of the 4 known sites on MRC property with coast lilies. Both sites were in bishop pine/pygmy habitat in the vicinity of “brushy opening” on the South Coast inventory block; the Mallo Pass fire burned approximately 6 coast lily plants. There were no direct impacts from suppression efforts, like fire line construction. The 2 impacted sites represent 100 % of the known coast lilies on the South Coast and 67% of the known coast lilies on MRC property. An MRC botanist will re-visit the sites during the blooming period in 2009 to determine the severity of the fire impacts.

6.20 Baker's Meadowfoam (*Limnanthes bakeri*)

6.20.1 Conservation status

Federal Status	State Status	CRPR
None	SR	1B.1



Illustration from
CDFG
HCP Branch

6.20.2 Distribution

6.20.2.1 General distribution

Baker's meadowfoam is endemic to Mendocino County. There are approximately 20 reported occurrences from Laytonville, Covelo East, Ukiah (extirpated), Willits, and Mina quadrangles; all are on private land (CNPS 2006, CDFG 2001, CNDDDB 2005).

6.20.2.2 Plan area

Baker's meadowfoam has not been found in the plan area; however, the plan area extends into the Ukiah Quadrangle where this species, found in 1993, is now extirpated (CNDDDB 2005).

6.20.3 Description and life history

Baker's meadowfoam is an herbaceous annual in the false mermaid family (Limnanthaceae) with dissected leaves and funnel-shaped flowers that are white or creamy yellow (Hickman 1993). Its blooming period is from April through May (CNPS 2006).

6.20.4 Habitat requirements

Baker's meadowfoam occurs in seasonally saturated or inundated clay soil in low swales, meadows, vernal pools, valley foothill grassland, roadside ditches, and along margins of marshy areas, at elevations from 560-2912 ft (175-910 m) (CNPS 2006). As an obligate (OBL) wetland species, Baker's meadowfoam has at least a 99% likelihood of occurring in wetlands (Reed 1988, USFWS 1997d).

6.20.5 Threats

Threats to Baker's meadowfoam include grazing, development, and road construction; however, meadowfoam populations appear to tolerate light disturbance from farming equipment or grazing (CNDDDB 2005). Apparently, the greatest threats to this species are alteration of local drainage patterns and removal of standing water for agriculture and residential development (CDFG 2001).

6.20.6 Population trend

The population trend for Baker's meadowfoam is one of stability to decline (CDFG 2001).

6.21 Running-pine (*Lycopodium clavatum*)

6.21.1 Conservation status

Federal Status	State Status	CRPR
None	None	4.1



Photo from
Lakehead Forestry

6.21.2 Distribution

6.21.2.1 General distribution

Running-pine occurs in California, Oregon, and Washington, as well as throughout the United States. In California, the species occurs from Sonoma, Mendocino, and Humboldt counties (CNPS 2006, CNDDDB 2005). Most of the 120 known occurrences in California are recent records from commercial timberlands in Humboldt County (CNDDDB 2005). From Mendocino County, within the Noyo Hill Quadrangle (CNDDDB 2005), there are 4 report occurrences. In Sonoma County, there is 1 occurrence from McGuire Ridge Quadrangle (CNDDDB 2005).

6.21.2.2 Plan area

Running-pine has not been found in the plan area; however, the plan area extends into Noyo Hill and McGuire Ridge quadrangles where there are reported occurrences of this species.

6.21.3 Description and life history

Running-pine is a rhizomatous herb in the club-moss family (Lycopodiaceae). The species is not a flowering plant. Plants are creeping to vine-like and occur on bare soil, downed logs, or other plants. Stems are branched and often forked unequally. Leaves are spirally arranged, small and needle-like or scale-like. The cones are terminal on erect stems (Hickman 1993) and are present from July to August (CNPS 2006).

6.21.4 Habitat requirements

Running-pine occurs in mesic areas within North Coast coniferous forest, as well as freshwater marsh and swamp habitats at elevations from 180-2370 ft (60-790 m) (CNPS 2001). The species also grows in wet inboard ditches along logging roads.⁵ Running-pine is a facultative (FAC) plant species.

6.21.5 Threats

Threats to running-pine include logging (CNDDDB 2005, CNPS 2006).

6.21.6 Population trend

The population trend for running-pine is unknown.

⁵ Personal communication from T. Sholars (College of the Redwoods, Fort Bragg, CA) to Ann Howald (MRC consultant) August 2004

6.22 Mendocino Bush Mallow (*Malacothamnus mendocinensis*)

6.22.1 Conservation status

Federal Status	State Status	CRPR
None	None	1A

6.22.2 Distribution

6.22.2.1 General distribution

Mendocino bush mallow is known from only 2 historical collections (1937 & 1939) within Elledge Peak and Boonville quadrangles in Mendocino County (CNPS 2001, CNDDDB 2005). Intensive field surveys to relocate this species have been unsuccessful; the species is currently considered extinct (CNPS 2006, CNDDDB 2005).

6.22.2.2 Plan area

Mendocino bush mallow has not been found in the plan area; however, the plan area extends into Boonville Quadrangle where there is an historic occurrence.

6.22.3 Description and life history

Mendocino bush mallow is a deciduous shrub within the mallow family (Malvaceae). The shrub has sparse to densely hairy herbage. Leaves are generally round and thin with upper surfaces that are sparsely hairy. Inflorescences are spike-like to openly panicle-like with clusters of many pale pinkish-purple flowers (Hickman 1993) that bloom from May to June (CNPS 2006).

6.22.4 Habitat requirements

This species occurs in cismontane woodland habitats at elevations from 1275-1725 ft (425-575 m).

6.22.5 Threats

Threats to Mendocino bush mallow include road-widening that may destroy historical sites where this species was known to occur (CNDDDB 2005).

6.22.6 Population trend

Mendocino bush mallow is presumed extinct (CNDDDB 2005).

6.23 Seacoast Ragwort (*Packera bolanderi* var. *bolanderi*)

6.23.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.2



Photo by
Maralyn Renner, 2005

6.23.2 Distribution

6.23.2.1 General distribution

Seacoast ragwort occurs in California, Oregon, and Washington. In California, there are approximately 22 occurrences in Del Norte, Humboldt, and Mendocino counties—12 of these have been found on commercial timberland since 2004 (CNDDDB 2005). Within the Mendocino Quadrangle, there is 1 reported occurrence, based on a 1921 herbarium specimen (CNPS 2001).

6.23.2.2 Plan area

Seacoast ragwort has not been found in the plan area; however, the plan area extends into Mendocino Quadrangle where there is an historic occurrence of this species.

6.23.3 Description and life history

Seacoast ragwort is a rhizomatous perennial herb in the sunflower family (Asteraceae) with 1 or more erect stems that reach 4-24 in. (10-60 cm) in height. The herbage mostly lacks hairs; the leaves are basal and found in reduced forms along the stems. The basal leaves are thin (fleshy near the coast) in texture with heart-shaped blades and long petioles. The blades are shallowly, palmately lobed; each lobe is toothed or angled. Cauline leaves are similar to basal leaves yet become smaller and more pinnately dissected further up the stems. The inflorescence is a compact cyme with individual flower heads that consist of yellow disk and ray flowers (Hickman 1993) that bloom from June to July (CNPS 2006).

6.23.4 Habitat requirements

Seacoast ragwort occurs in coastal scrub and North Coast coniferous forest at elevations from 98-2132 ft (30-650 m) (CNPS 2006).

6.23.5 Threats

Threats to seacoast ragwort include trail use and road maintenance (CNDDDB 2005).

6.23.6 Population trend

The population trend for this species is unknown.

6.24 Bolander's Beach Pine (*Pinus contorta* ssp. *bolanderi*)

6.24.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
Halleh Paymard, 2002

6.24.2 Distribution

6.24.2.1 General distribution

Bolander's beach pine is endemic to Mendocino County, occurring in Elk, Albion, Noyo Hill, Mathison Peak, Fort Bragg, and Mendocino quadrangles (CNPS 2006, CNDDDB 2005). In

California, there are 28 reported occurrences of Bolander's beach pine (CNDDDB 2005); many of these are based on distribution maps by Sholars and Barrows (1983).

6.24.2.2 Plan area

Table 6-8 shows the occurrence of Bolander's beach pine in the plan area. Moreover, the plan area extends into other quadrangles where this species occurs.

Table 6-8 Bolander's Beach Pine in the Plan Area

Project	NDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
n/a	n/a	Mathison Peak	Lower Albion Albion	2007	several	CCFrS (pygmy)
n/a	n/a	Elk	Lower Albion Albion	2007	several	CCFrS (pygmy)

6.24.3 Description and life history

Bolander's beach pine is a small evergreen tree in the pine family (Pinaceae). The trees reach less than 7 ft (<2 m) in height and have scaly thin bark. Leaves are needle-like with two per bundle. The cones are small and asymmetrical; they remain closed on the stems for many years (Hickman 1993).

6.24.4 Habitat requirements

Bolander's beach pine is restricted to podzolized soils within closed-cone coniferous forest at elevations from 225-750 ft (75-250 m) (CNPS 2002). This tree is often associated with pygmy cypress and bishop pine within Mendocino Pygmy Forest (Holland 1986). Bolander's beach pine is a facultative (FAC) plant species.

6.24.5 Threats

Threats to Bolander's beach pine include residential development; off-road vehicles; trash dumping; road construction and maintenance; and logging (CNDDDB 2005).

6.24.6 Population trend

The population trend for Bolander's beach pine is unknown.

6.25 White-Flowered Rein Orchid (*Piperia candida*)

6.25.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2



Photo by
Tabi Bolton, 2008

6.25.2 Distribution

6.25.2.1 General distribution

White-flowered rein orchid is known to occur throughout northwestern California, Oregon, Washington, Alaska, and British Columbia. In California, this species has been reported from Santa Cruz, San Mateo, Santa Clara, Sonoma, Del Norte, Humboldt, Mendocino, Siskiyou and Trinity Counties (CNDDDB 2008). In Mendocino County this orchid is known to occur in the Philo, Comptche, Sherwood Peak, Laytonville, Piercy and Noble Butte Quadrangles (CNDDDB 2008).

6.25.2.2 Plan area

Table 6-9 shows the occurrences of white-flowered rein orchid in the plan area. The plan area extends into quadrangles where there are known occurrences.

Table 6-9 White-Flowered Rein Orchid in the Plan Area

Project	NDDDB OCC #	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-06- 140MEN	n/a	Eureka Hill	Rolling Brook Garcia	2007	2	NCFrs
Hollow Tree Creek Watershed Restoration Project – Phase IV	n/a	Leggett	Rockport Middle Hollow Tree	2007	1	NCFrs

6.25.3 Description and life history

White-flowered rein orchid is a perennial herb in the orchid family (Orchidaceae). The leaves are basal, 7-18 cm long and 12-30 mm wide. The inflorescence ranges from 7 to 30 cm and is generally one sided and open. The upper flower sepal is pointed forward and colored white or green with white margins. The lower sepals are white with a mid-vein green and the lip is 1.5 - 3.5 mm, narrowly triangular, recurved toward spur, and white. The spur is 1.5 - 3.5 mm and pointed down. According to the description in the Flora of North America, this species has flowers which are whiter and more ephemeral than other species in the genus.⁶

6.25.4 Habitat requirements

White-flowered rein orchid prefers open to shaded sites within broadleaved upland forests, lower montane coniferous forests, and north coast coniferous forests. The species occurs at elevations ranging from 100 to 4300 ft. (30-1310 m).

6.25.5 Threats

Threats to white-flowered rein orchid include damage from timber operations such as road construction and maintenance, log skidding, and slash piling (CNDDDB, 2008).

6.25.6 Population trend

The population trend for white-flowered rein orchid is unknown.

⁶ <http://hua.huh.harvard.edu/FNA/volumes.shtml>, last revised 07/18/07, last accessed 9/8/2009.

6.26 North Coast Semaphore Grass (*Pleuropogon hooverianus*)

6.26.1 Conservation status

Federal Status	State Status	CRPR
None	ST	1B.1



Photo by
Bart Eisenberg, 2001

6.26.2 Distribution

6.26.2.1 General distribution

North Coast semaphore grass is endemic to California. There are 17 reported occurrences of the species in approximately 8 disjunct locations on private land in Mendocino, Marin, and Sonoma counties. New locations of this species found in the plan area in 2006 will likely result in the addition of at least 2 new occurrences to CNDDB. The estimated total area of occupied habitat within all 3 counties is 14-18 acres (CDFG 2002). North Coast semaphore grass has been recorded from Hopland, Elledge Peak, Orrs Springs, Boonville, Willits, Comptche, Laytonville, Longvale, and Cahto Peak quadrangles (CNPS 2006, CNDDB 2005); the species is possibly extirpated from the Comptche and Cahto Peak locations (CNDDB 2005).

6.26.2.2 Plan area

Table 6-9 shows the occurrences of North Coast semaphore grass in the plan area. Some of these are the easternmost known locations for this species. The plan area extends into the Comptche quadrangle where there are reported occurrences of this species.

Table 6-9 North Coast Semaphore Grass in the Plan Area

North Coast Semaphore Grass in the Plan Area						
Project	NDDDB OCC#	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
1-00-436 MEN	22	Orrs Springs	Upper Ackerman Creek Ukiah	2001	>10,000	NCFrs and VFGrS – springs, seeps, and vernal pool
1-01-032 MEN	21	Orrs Springs	Upper Ackerman Creek Ukiah	2001	10	NCFrs and VFGrS – class III watercourse
1-01-032 MEN	23	Orrs Springs	Upper Ackerman Creek Ukiah	2001	2	NCFrs and VFGrS – moist roadside area
Hovland, P. (OBS)	25	Orrs Springs	Upper Ackerman Creek Ukiah	2002	2000	NCFrs and VFGrS – moist roadside area

North Coast Semaphore Grass in the Plan Area						
Project	NDDDB OCC#	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
Ramaley, J. (OBS)	26	Orrs Springs	Upper Ackerman Creek Ukiah	2006	200	NCFrs and VFGrs – mesic grassland area
1-06-180 MEN	27	Orrs Springs	Upper Ackerman Creek Ukiah	2006	7050	NCFrs and VFGrs – roads, hillside bench, mesic grasslands,
Ramaley, J. (OBS)	28	Orrs Springs	Upper Ackerman Creek Ukiah	2006	1500	NCFrs and VFGrs – mesic grassland near Class III headwaters

6.26.3 Description and life history

North Coast semaphore grass is a rhizomatous perennial in the grass family (Poaceae). The species has long flat ribbon-like leaves, which are often drooping. Flowering stems are erect and reach heights of more than 36 in. (90 cm). The inflorescences, which have 7-9 widely spaced linear spikelets, are terminal, unbranched, and nodding (Hickman 1993). This species blooms from April to June (CNPS 2006).

6.26.4 Habitat requirements

North Coast semaphore grass occurs in mesic sites within broadleaved upland forest, meadow, North Coast coniferous forest, vernal pools, and freshwater marsh and swamp habitats at elevations from 32-2032 ft (10-635 m) (CNPS 2006). North Coast semaphore grass is a facultative wetland (FACW) plant species.

6.26.5 Threats

Threats to North Coast semaphore grass include habitat modification, roadside maintenance practices, competition of non-native species, grazing, trampling, and disruption of natural hydrological conditions (CDFG 2002).

6.26.6 Population trend

Recent discoveries of new occurrences of North Coast semaphore grass in the plan area may result in a change in overall population trend, which has been reported as declining (CDFG 2002).

6.27 Great Burnet (*Sanguisorba officinalis*)

6.27.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.2

6.27.2 Distribution

6.27.2.1 General distribution

Great burnet occurs in California, Oregon, Washington, and elsewhere in the United States. In California, the species occurs along the North Coast within Del Norte, Humboldt, and Mendocino counties. There are approximately 11 occurrences within California, including 7 in Mendocino County (Smith and Wheeler 1991, CNDDB 2005, Jepson Online Interchange 2006), within Ukiah, Albion, Mendocino, Elk, Longvale, Laytonville, and Cahto Peak quadrangles (CNPS 2006, CNDDB 2005).

6.27.2.2 Plan area

Great burnet has not been found in the plan area; however, the plan area extends into quadrangles where this species occurs.

6.27.3 Description and life history

Great burnet is a rhizomatous perennial herb in the rose family (Rosaceae). Plants are creeping and stems are 20-56 in. (50-140 cm) in height. The basal leaves are 1-pinnate with 3-6 leaflets per side that are evenly lobed or toothed. Inflorescences are spike or head-like with many (>20) dark purplish flowers (Hickman 1993) that bloom from July to October (CNPS 2006).

6.27.4 Habitat requirements

Great burnet occurs in mesic sites, such as meadows, marshes, seeps, bogs, fens, and riparian areas, on serpentine substrates, sometimes within broadleaved upland forest and North Coast coniferous forest, at elevations from 180-4200 ft (60-1400 m) (CNPS 2001). As a facultative wetland (FACW) species, great burnet has a 67-99% likelihood of occurring in wetland habitats (Reed 1988, USFWS 1997d).

6.27.5 Threats

Threats to great burnet include erosion from logging (CNDDB 2005).

6.27.6 Population trend

The population trend for this species is unknown.

6.28 Maple-Leaved Checkerbloom (*Sidalcea malachroides*)

6.28.1 Conservation status

Federal Status	State Status	CRPR
None	None	4.2



Photo by
Lindsay Herrera, 2001

6.28.2 Distribution

6.28.2.1 General distribution

Maple-leaved checkerbloom occurs in California and in Oregon, where it is thought to be extirpated and is state-listed as endangered. There are more than 200 occurrences of maple-leaved checkerbloom in California (CNDDDB 2005), from Del Norte, Humboldt, Mendocino, Monterey, Santa Clara, Santa Cruz, and Sonoma counties. More than 50 occurrences of this species have been identified within privately managed timberlands in Humboldt and Mendocino counties since 1995 (CNDDDB 2005). In Mendocino County, this species occurs within Navarro, Point Arena, Gualala, Mallo Pass Creek, Albion, Noyo Hill, Comptche, Dutchmans Knoll, Westport, Inglenook, and Bear Harbor quadrangles (CNPS 2006, CNDDDB 2005).

6.28.2.2 Plan area

Table 6-10 shows the occurrences of maple-leaved checkerbloom in the plan area, documented from the CNDDDB (2005) as well as from observations of MRC staff. The plan area extends into Albion, Comptche, Gualala, Mallo Pass Creek, and Noyo Hill quadrangles, where this species also occurs.

Table 6-10 Maple-leaved Checkerbloom in the Plan Area

Project	NDDDB OCC#	USGS Quad	Watershed and Inventory Block	Year Found	# Plants	Habitat
Swingle, T (OBS)	140	Westport	Cottoneva Creek	2001	13	NCFrs – road side
1-01-113 MEN	n/a	Saunders Reef	Rockport			
			Point Arena Creek	2001	6	NCFrs – road
			Garcia			
1-03-110 MEN	n/a	Westport	Cottoneva Creek	2003	80	NCFrs – road side
			Rockport			
1-04-261 MEN	n/a	Mallo Pass Creek	Mallo Pass Creek	2004	11	NCFrs – road side
			South Coast			
1-05-121 MEN	n/a	Navarro	Navarro River	2005	3	NCFrs – landing
			Navarro West			
1-07-039 MEN	n/a	Westport	Juan Creek	2007	70	NCFrs (coastal) roadside
			Rockport			

6.28.3 Description and life history

Maple-leaved checkerbloom is a stout woody perennial sub-shrub in the mallow family (Malvaceae). Plants are bristly throughout and reach 1-5 ft (4-15 dm) in height. Leaf blades are grape-leaf-like and coarsely crenate. Inflorescences are dense and spike-like with small white 5-petaled flowers subtended by prominent bracts (Hickman 1993). The blooming period for this species is from April through August (CNPS 2006).

6.28.4 Habitat requirements

Maple-leaved checkerbloom occurs in disturbed areas within broadleaved upland forest, coastal prairie, coastal scrub, and North Coast coniferous forest habitats at elevations from 6-2100 ft (2-700 m) (CNPS 2006).

6.28.5 Threats

Threats to maple-leaved checkerbloom include timber harvest, road maintenance, competition with surrounding vegetation, and herbivory (CNDDDB 2005).

6.28.6 Population trend

The population trend for maple-leaved checkerbloom is unknown.

6.28.7 Mendocino lighting complex (2008)

Fire suppression activities, including road grading and widening, impacted the majority of the maple-leaved checkerbloom in the Juan Creek drainage. This occurrence accounted for 67% of the known checkerbloom individuals within MRC forestlands and 84% within the Rockport inventory block. An MRC botanist will re-visit the Juan Creek sites during the blooming period in 2009 to determine the severity of these impacts.

6.29 Purple-stemmed Checkerbloom (*Sidalcea malviflora* ssp. *purpurea*)

6.29.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2

6.29.2 Distribution

6.29.2.1 General distribution

Purple-stemmed checkerbloom is endemic to California and occurs in Mendocino, Sonoma, San Mateo, and possibly Marin counties. In Mendocino County, the species occurs from Gualala, Point Arena, and Fort Bragg quadrangles (CNPS 2006, CNDDDB 2005). Approximately 14 extant occurrences of purple-stemmed checkerbloom are known (CNDDDB 2005).

6.29.2.2 Plan area

Purple-stemmed checkerbloom has not been found in the plan area; however, the plan area extends into quadrangles where this species occurs.

6.29.3 Description and life history

Purple-stemmed checkerbloom is a rhizomatous perennial herb in the mallow family (Malvaceae). Plants are purple-tinted and have decumbent hairy stems. Lower leaves are coarsely crenate and unlobed with bristly hairs on both surfaces. Inflorescences are dense-to-open with leaf-like lower bracts. Flowers are generally densely stellate and bristly with petals that are bright-to-deep pink with white veins (Hickman 1993). This species blooms from March to June (Jepson Online Interchange 2006).

6.29.4 Habitat requirements

Purple-stemmed checkerbloom occurs in broadleaved upland forest and coastal prairie habitats at elevations from 45-195 ft (15-65 m) (C CNPS 2006).

6.29.5 Threats

Threats to purple-stemmed checkerbloom include cattle grazing, trail maintenance, recreation, and competition from invasive pest plants (CNDDDB 2005).

6.29.6 Population trend

The population trend for purple-stemmed checkerbloom is unknown.

6.30 Beaked Tracyina (*Tracyina rostrata*)

6.30.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.2

6.30.2 Distribution

6.30.2.1 General distribution

Beaked tracyina is endemic to California and occurs in Humboldt, Lake, Mendocino, and Sonoma counties. In Mendocino County, beaked tracyina occurs within Hopland and Purdys Gardens quadrangles (CNDDDB 2005).

6.30.2.2 Plan area

Beaked tracyina has not been found in the plan area. Moreover, the plan area does not extend into quadrangles where beaked tracyina occurs. However, the *adjustment area* for this HCP/NCCP includes a portion of the range of this species.

6.30.3 Description and life history

Beaked tracyina is a slender annual herb in the sunflower family (Asteraceae). Plants are less than 14 in. (<35 cm) tall with smooth erect stems that are branched above. Leaves are alternate and narrowly lanceolate with hairy entire margins. Inflorescences are radiate heads that are terminal with greater than 22 flowers. Ray flowers are thread-like and inconspicuous; their color is greenish-yellow tinged reddish (Hickman 1993). This species blooms from May to June (CNPS 2002).

6.30.4 Habitat requirements

Beaked tracyina occurs in open grassy meadows within cismontane woodland and valley and foothill grassland at elevations from 30-1705 ft (90-520 m) (CNDDDB 2005, CNPS 2006).

6.30.5 Threats

Threats to beaked tracyina include competition from invasive pest plants, a proposed transmission line, and grazing (CNDDDB 2005).

6.30.6 Population trend

The population trend for beaked tracyina is unknown.

6.31 Santa Cruz Clover (*Trifolium buckwestiorum*)

6.31.1 Conservation status

Federal Status	State Status	CRPR
None	None	1B.1

6.31.2 Distribution

6.31.2.1 General distribution

Santa Cruz clover is endemic to California, occurring in Monterey, Santa Cruz, Sonoma, and Mendocino counties. In Mendocino County, there are 2 reported occurrences from 2006 on the Eureka Hill Quadrangle (CNDDDB 2009).

6.31.2.2 Plan area

Santa Cruz clover has not been found in the plan area; however, the plan area extends into the Eureka Hill Quadrangle where this species occurs.

6.31.3 Description and life history

Santa Cruz clover is an annual herb in the pea family (Fabaceae). Stems are spreading to erect, and glabrous. Leaves are elliptic to obovate, finely serrate; stipules have many bristle-tipped teeth. Flowers are pink to white, in heads with bowl-shaped involucre; first heads are enclosed in stipules, seemingly cleistogamous (Hickman 1993). This species blooms from April to October (CNPS 2006).

6.31.4 Habitat requirements

Santa Cruz clover grows in moist grassy areas within broadleaved upland forest, cismontane woodland, and on coastal prairie margins, at elevations from 35-205 ft (105-610 m) (CNPS 2005).

6.31.5 Threats

Threats to Santa Cruz clover include land-clearing and non-native pest plants (CNPS 2006, CNDDDB 2005).

6.31.6 Population trend

The population trend for this species is unknown.

6.32 Long-beard Lichen (*Usnea longissima*)

6.32.1 Conservation status

Federal Status	State Status	CRPR
None	None	Not Applicable



Photo from
Lichens of North America,
Yale University Press, 1998

6.32.2 Distribution

6.32.3 General distribution

Long-beard lichen occurs throughout the Northwest from California to Alaska (McCune 1997). The species is widespread, although declining, in northern Europe and Siberia (Brodo et al. 2001). Currently, there are more than 400 reported occurrences of long-beard lichen in California; most of these are recent reports from privately managed timberlands in Humboldt County (CNDDB 2005). There are also documented occurrences of this species within Mendocino, Sonoma, San Mateo, and Santa Clara counties (CNDDB 2005). In Mendocino County, long-beard lichen occurs within the Yorkville, Point Arena, Bear Harbor, Orrs Springs, Hales Grove, Dutchmans Knoll, Noble Butte, Noyo Hill, Leggett, Mathison Peak, Piercy and Elk quadrangles (CNDDB 2005).

6.32.3.1 Plan area

Table 6-11 shows the known occurrences of long-beard lichen in the plan area, documented from CDDDB (2005) as well as from observations of MRC staff.⁷ The plan area extends into other quadrangles where this species also occurs.

Table 6-11 Long-beard lichen in the Plan Area

Long-beard lichen in the Plan Area						
Project	NDDB OCC#	USGS Quad	Watershed and Inventory Block	Year Found	# of Host Trees	Habitat
1-01-410 MEN	131	Mallo Pass Creek	Lower Elk Creek South Coast	2002	Several	NCFrs – ridgetop
1-02-059 MEN	120	Elk	Lower Albion River Albion	2002	20	NCFrs – ridgetop
1-02-277 MEN	140	Elk	Lower Albion River Albion	2002	25	NCFrs – ridgetop

⁷ Emails from Elicia Goldsworthy (MRC) to Ann Howald (MRC consultant) from November 2005 to January 2006

Long-beard lichen in the Plan Area						
Project	NDDB OCC#	USGS Quad	Watershed and Inventory Block	Year Found	# of Host Trees	Habitat
1-02-304 MEN	n/a	Mallo Pass Creek	Mallo Pass Creek South Coast	2003	several	NCFrs – ridgetop
1-03-110 MEN	n/a	Westport	Cottoneva Creek Rockport	2003	50	NCFrs – ridgetop
Hollow Tree Creek Watershed Restoration Project – Phase I	n/a	Lincoln Ridge	Upper Hollow Tree Creek Rockport	2003	45	NCFrs – on Madrone and Douglas-fir
1-03-149 MEN	n/a	Eureka Hill	Rolling Brook Garcia	2004	3	NCFrs – ridgetop
1-04-237 MEN	n/a	Mallo Pass Creek	Lower Elk Creek South Coast	2005	15	NCFrs – ridgetop
1-04-264 MEN	n/a	Greenough Ridge	Rice Creek Big River	2007	>20	NCFrs – dispersed throughout post-harvest area
1-05-056 MEN	n/a	Mallo Pass Creek	Upper Elk Creek South Coast	2005	2	NCFrs – ridgetop
1-05-207 MEN	n/a	Elk	Flynn Creek Navarro West	2005	4	NCFrs – ridgetop
Goldsworthy, E. (OBS)	n/a	Elk	Big Salmon Creek Albion	2005	3	NCFrs – ridgetop
1-06-101 MEN	n/a	Elk & Navarro	South Fork Albion Albion	2006	several	NCFrs – ridgetop on Douglas fir
1-06-143 MEN	n/a	Greenough Ridge	Russell Brook Big River	2007	3-10	NCFrs – on Douglas-fir
1-06-223 MEN	n/a	Elk and Mathison Peak	South Fork Albion River Albion	2007	4	NCFrs – on redwood and Douglas-fir
1-07-117 MEN	n/a	Bailey Ridge	Little North Fork Navarro Navarro East	2007	3	NCFrs – ridgetop

6.32.4 Description and life history

Long-beard lichen is long, pendulous fruticose lichen which reaches up to 6.5 ft (2 m) in length. The thallus (body) is pale-greenish or yellow-tinged, consisting of single, unbranched (or sparsely branched) central strands and numerous short, perpendicular lateral branchlets (Brodo et al. 2001). The cortex (outer layer) of the main branches scales-off and leaves a rough, dull surface (McCune 1997, Brodo et al. 2001).

6.32.5 Habitat requirements

Long-beard lichen occurs in the canopy of both conifers and hardwoods within North Coast coniferous forest and broadleaved upland forest habitats at elevations less than 2000 ft (<610 m) (CNDDDB 2005).

6.32.6 Threats

Threats to long-beard lichen include air pollution, logging, and road-related disturbances (CNDDDB 2005, McCune 1997). Long-beard lichen is one of the most pollution-sensitive lichens (Brodo et al. 2001).

6.32.7 Population trend

The population trend for this species is currently unknown.

6.33 Oval-leaved Viburnum (*Viburnum ellipticum*)

6.33.1 Conservation status

Federal Status	State Status	CRPR
None	None	2.3



Photo by
Br. Alfred Brousseau

6.33.2 Distribution

6.33.2.1 General distribution

Oval-leaved viburnum occurs in California, Oregon, and Washington. In California, there are at least 20 extant occurrences of oval-leaved viburnum (CNDDDB 2005, Jepson Online Interchange 2006)—many consisting of fewer than 5 individuals. These reported occurrences are from Contra Costa, Fresno, El Dorado, Glenn, Humboldt, Mendocino, Napa, Shasta, and Sonoma counties (CNDDDB 2005). There are 11 occurrences based on herbarium specimens from the 1940s and earlier (CNDDDB 2005). In Mendocino County, oval-leaved viburnum occurs within Hopland, Purdys Gardens, Burbeck, Laytonville, Bell Springs, Leggett, and Tan Oak Park quadrangles (CNDDDB 2005).

6.33.2.2 Plan area

Oval-leaved viburnum has not been found in the plan area; however, the plan area extends into Leggett Quadrangle where this species occurs.

6.33.3 Description and life history

Oval-leaved viburnum is a deciduous shrub in the honeysuckle family (Caprifoliaceae). The slender plants are generally hairy and glandular. Leaves are three-veined from the base, elliptic to round or cordate, and coarsely dentate (except base). Inflorescences are terminal flat-topped cymes with oblanceolate bracts. Flowers are deeply saucer-shaped and white (Hickman 1993). This species blooms from May to June (CNPS 2006).

6.33.4 Habitat requirements

Oval-leaved viburnum occurs in chaparral, cismontane woodland, and lower montane coniferous forest at elevations from 705-460 ft (215-1400m) (CNPS 2006).

6.33.5 Threats

Specific threats to this species are unknown.

6.33.6 Population trend

The population trend for oval-leaved viburnum is unknown.